OVERVIEW OF THE COMPONENT 3, SOCIAL IMPLEMENTATION IN 2019

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OVERVIEW OF THE COMPONENT 3, SOCIAL IMPLEMENTATION IN 2019

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Introduction

The objective of this chapter is to serve as a report of activities for the component 3 which aims at social implementation of the research findings, referring to the Japan International Cooperation Agency (JICA) monitoring sheet of the 2019 fiscal year. The SATREPS MNGD project, "The operation model of construction measures for problematic soil aimed at reducing rural road disasters is developed," comprises the following three research components (Figure 1 in the second chapter): Component 1. Geotechnical engineering research. Component 2. Applied agricultural research. And the component 3. Social implementation. The component 3 aims to implement the results of the research from components 1 and 2 to communities. Members of team for the component 3 have been involved in both research activities and practice regarding component 3 in South Omo Zone where the model sites of this project are located (Figure 1 in the first chapter).

This chapter is composed in two parts. The first part provides an outline of the component 3 as well as the progress report on our activities in the 2019 fiscal year and describes the activities planned for 2020.

Outline of the Component 3

Component 3 was designed to engage our activities according to three issues in the coming five years (Figure 1). The first issue concerns "gathering information on and analyzing occurrences of road disasters, and the current state of countermeasures undertaken in the South Omo Zone." The members focusing on the component 3 have been working on this issue for about two years from 2019 to 2020. The second issue is to "develop maintenance methods for roads on foundations of problematic soil processed with soil modifiers." From 2020, members of team on the component 2 will begin working on the second issue

Issues of component 3: Social Implementation	2019	2020	2021	2022	2023
3.1 Gather information on and analyze occurrences of road disasters and the current state of countermeasures undertaken in South Omo region					
3.2 Develop maintenance method for roads on foundation of problematic soil processed with soil modifiers					
3.3 Establish operation model of construction measures for problematic soil, and road maintenance and management system					

Figure 1. Monitoring Sheet, Component 3
(Source: JICA monitoring sheet)

with counterpart universities and institutions until 2023. The last issue involves "establishing an operation model of construction measures for problematic soil as well as a road maintenance and management system."

One of the outcomes of the component 3 is to establish a certificate course[(1)] for specialists on road disaster management at the community level based on the component 3 related research activities at Jinka University with the collaboration of Jinka University staff.

An interdisciplinary research team worked on the component 3 are seven Japanese researchers specialized in engineering and anthropology participated in FY2019. From the Ethiopian side, there are five researchers in the fields of anthropology, agricultural science, geography, public administration, and resource management mainly from Jinka University participated in FY2019.

Progress of Activities in FY2019: Three Research Units in the Component 3

This MNGD project sets up the multidisciplinary team for social implementation. Component 3 is divided into the following three research units working on three issues (Table 1).

Research Unit 1: Trial construction for community roads.

Research Unit 2: Social implementation and community organization.

Research Unit 3: Implementation manuals and guidelines for community road construction.

According to the records from the three research units, those working on this component engaged in at least four activities in FY2019 from April 1, 2019, to March 31, 2020. At first, the members of Research Unit 1 started preparing for the test driving site on black cotton soil, as instructed by Prof. Gebre, the president, and Dr. Dikaso, the vice president of Jinka University (Figure 2).

Table 1. Three Research Units of Component 3 and Progress of Research Activities

No.	Name of Research Unit	Progress of Research Activities
Unit 1	Trial Construction for the community road	1) Identified the locations of road disasters and areas with problematic soil. 2) Thirteen *kebele* (the smallest administrative unit in Ethiopia) were selected as candidate model sites. 3) Conducted a preliminary survey in Baytsemer *kebele*. 4) The rural road improvement process was illustrated in a project pamphlet. (Chapter 6)
Unit 2	Social implementation & community organization	
Unit 3	Implementation manuals & guidelines for community-road construction	

(Source: Author's presentation materials on component 3 in the 1st Joint Coordination Committee Meeting 2019)

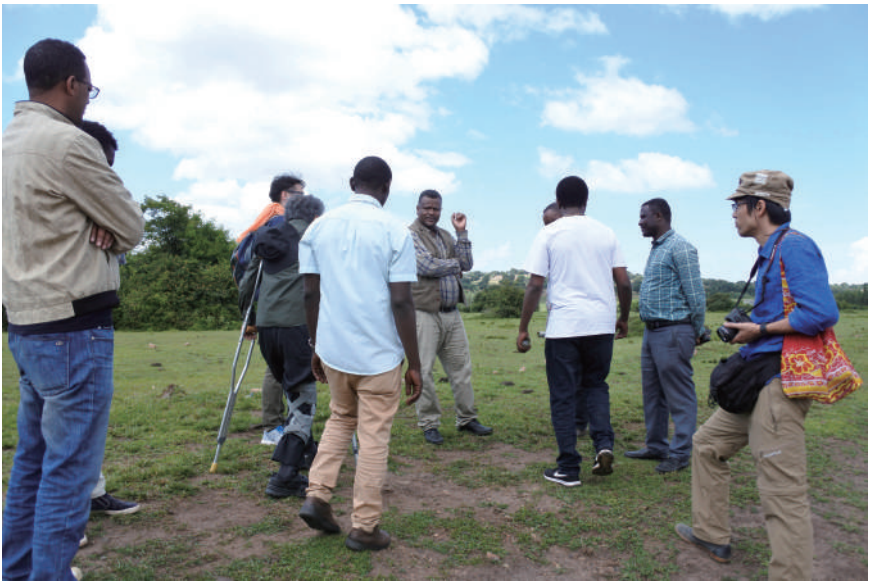


Figure 2. Examining the Test-Driving Site Based on Black Cotton Soil in the Jinka University Compound

Second, the members working on the component 3 identified the locations of road disasters and areas with problematic soil by visiting several sites based on the interviews with local people and officials. After the interviews, 13 *kebele* (the smallest administrative unit in Ethiopia) were selected as candidate model sites. Then, we had opportunities to obtain a great deal of information from six of the candidate *kebele* about local soil classifications on the community roads and their experiences regarding community road maintenance (Table 2).

Table 2. The List of Six Selected Candidate *Kebele* in South Omo Zone for SATREPS_MNGD Project Model Sites

No.	***Weleda*/ Minicipality**	***Kebele*/ area**	Population	Local soil classification in community road (based on interview data)	**Main usage of the road**	**Experience for community road maintenance**
1	Jinka Minicipality	Jinka Univ.	c.a.2000 (2018)	・Black cotton soil is located in the university compound (by observation)	For schooling	n.d.
2	South Ari Werede	B	3329 (2013) 9680 (2016)	・Black soil and red soil are located in the kebele ・Black soil is good for grain growth	For going to markets, gristmill, school, clinic, and so on	YES
3	Jinka Minicipality	A	6025 (2016)	・Black soil, red soil ・Black soil is good for grain growth	For going to markets, gristmill, school, clinic, and so on	YES
4	Jinka Minicipality	T	5305 (2016)	・Sandy, white soil	For going to markets, gristmill, school, clinic, and so on. Neighbors in Alga and shebi also use the road in this *kebele*	YES
5	Gazer Minicipality	G (new town)	n.d.	・Black soil is located in swanpy place	n.d.	n.d.
6	South Ari Werede	D	8980 (2013)	n.d.	For going to markets, gristmill, school, clinic, and so on	YES

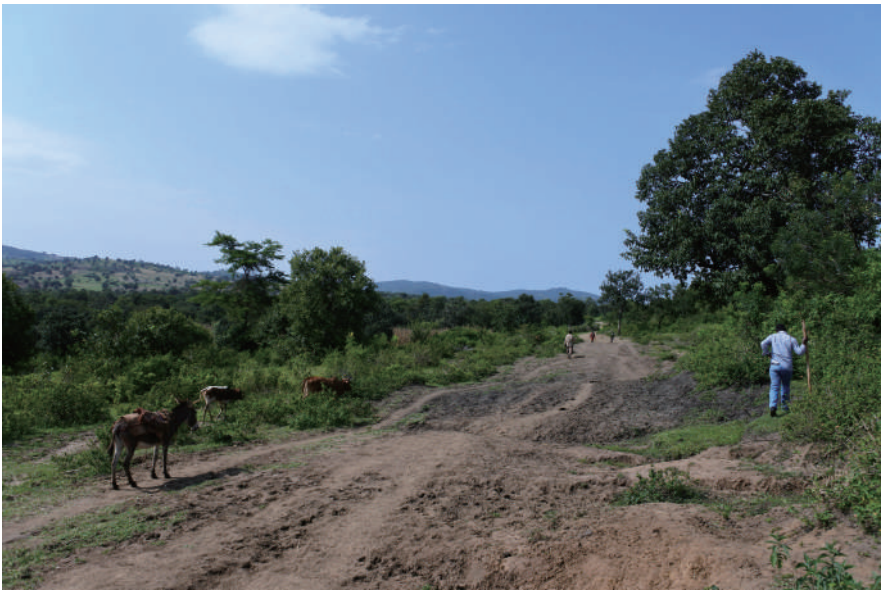
(Source: Jinka City Finance Estimation 2009E, South Aari Weleda office statistics 2005ETC–2006ETC, and Interview with the local officials in South Omo Zone, Jinka Miniciparity office, South Ethiopia Roads Authority, and academic staff of Jinka University)

Third, the members conducted a preliminary survey in *kebele* B. In August 2019, some Japanese researchers started visiting several candidate model-sites with academic staff from Jinka University. Mr. Kassahun Y., who is a lecturer at the Department of Geography at Jinka University, joined this preliminary survey as a co-researcher. We have found that there have been several areas in multiple *kebele* with problematic soil, notably black cotton soil (Figure 3).[2] Moreover, we conducted some interviews with local officials and people to understand how they identify problematic soil (e.g., black cotton soil) in their daily lives (Figures 4–1, 4–2, and 4–3).

We also conducted a preliminary household survey in *kebele* B with Mr. Argachew B., who is a lecturer of citizenship, moral education, and global affairs as well as that of social action work at Jinka University. Thanks to him, we could start conducting a preliminary household survey regarding transportation means for schooling and agricultural activities (Figure 5). Health posts and agricultural extension workers' offices also provided good entry points for understanding the general overview of the local people's daily lives in each *kebele*. Moreover, we gathered some information about the relationships between maternal and child health and transportation means for hospital visits (Figure 6) with support from Mr. Melaku, a lecturer of natural resource management.

Finally, the rural road improvement process was illustrated in a project pamphlet (see Chapter 6).[3]

Figure 3. Preliminary Survey for Identifying Road Disaster Locations



4–1

4–2

4–3

Figure 4–1, 4–2 and 4–3. Preliminary Survey for Identifying Areas with Problematic Soil and Soil Features

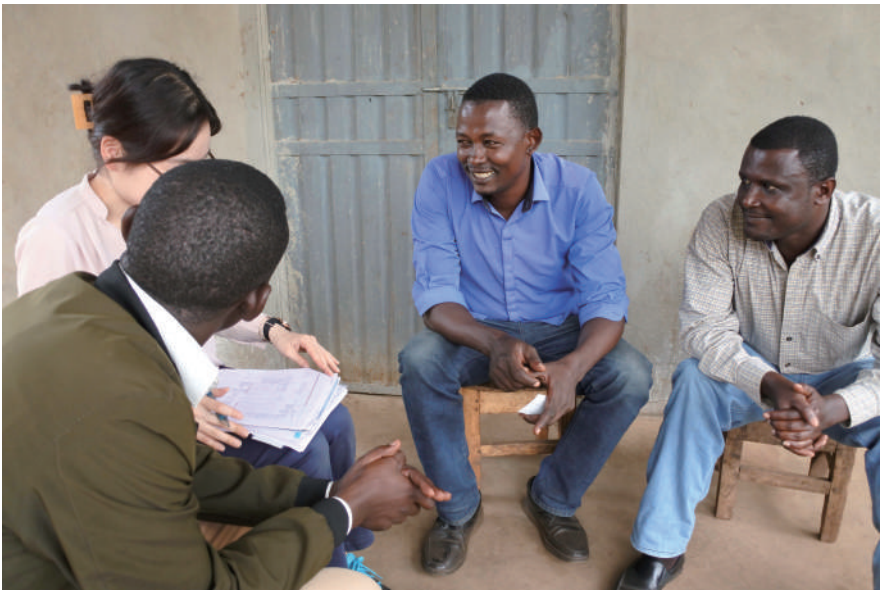


Figure 5. Preliminary Household Survey in *Kebele* B

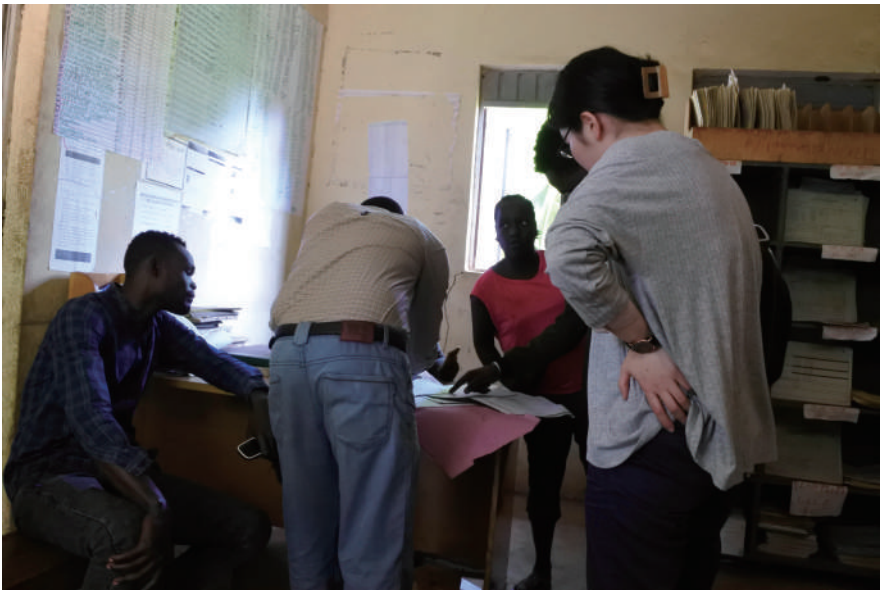


Figure 6. MNGD Members Had Some Discussions with Health Extension Workers in the Health Post

Future Plan from FY2020: Interdisciplinary Studies on Community Road Construction

In FY2020, we will continue to collect information on the occurrence of road disasters and the distribution of problematic soil such as black cotton soil and start to develop a method to make roads passable in the areas with problematic soil. Furthermore, we will examine how local people identify “good road” and “bad road” for living use, and we will learn how to maintain road traffic in accordance with local customs in order to invent new technologies for the construction of community roads.

Notes

(1) The Ethiopian Roads Authority (ERA) offers training courses based on the Universal Rural Road Access Program (URRAP). There are two courses, one using large heavy equipments and another using manual labor. In this project, we will mainly refer to the latter.

(2) One of our research assistants is Mr. Tariku T., a student at Jinka University. He has been working in the Department of Roads and Transportation of the South Omo Zone. He was in charge of the Universal Rural Road Access Program in the Zone.

(3) In addition to the four points mentioned in this paper, from November to December 2019, Dr. Fukubayashi, graduate student Mr. Sato, research fellow Mr. Matsukuma, instructed local people on how to repair a 150- to 200-meter stretch of road in front of *kebele* B’s school using manual labor. We also intended to provide demonstrations to residents. The results of this initiative will be reported in another issue of this journal.